

CLAIMS

SUB A²⁷ 1. A multi-carrier base station operating within a predetermined set
2 of frequencies wherein data components of forward link data are transmitted
simultaneously on a plurality of frequency bands, said base station comprising:
4 a first transmission subsystem for transmitting a sync channel message
on a single carrier frequency of a set of frequencies of said multi-carrier system;
6 and
at least one additional transmission subsystem for transmitting
8 remaining components of said forward link data.

2. The base station of Claim 1 wherein said sync channel message
2 indicates the center frequency of at least one multi carrier system in said
predetermined set of frequencies.

SUB C¹ 3. The base station of Claim 1 wherein said sync channel message
2 indicates the frequency of a single carrier system in said predetermined set of
frequencies.

4. The base station of Claim 2 wherein said sync channel message
2 indicates the frequency of a single carrier system in said predetermined set of
frequencies.

SUB C¹ 5. The base station of Claim 2 wherein said sync channel message is
2 transmitted on one of a set of a preferred frequency channels wherein the
number of frequencies in said set of preferred frequency channels is less
4 number of frequencies in said predetermined set of frequencies.

6. The base station of Claim 5 wherein said set of predetermined
2 frequencies are the set of frequency bands in a personal communications
system block of frequencies.

7. The base station of Claim 6 wherein the channel numbers of the
2 set of preferred frequency channels are 75, 150 and 225.

SUB A²⁸ 8. A multi-carrier mobile station comprising:

2 a control processor for controlling the operation of a plurality of receiver
subsystems in accordance with information indicated in a received sync carrier
4 message;

6 a first receiver subsystem for receiving said sync channel message on
single carrier frequency and for providing said sync carrier message to said
control processor and for receiving a first portion of a multi-carrier signal;

8 at least one additional receiver subsystem for receiving additional
portions of said multi-carrier signal.

9. The mobile station of Claim 8 wherein said control processor is
2 further for deciding whether to operate in a single band mode or a multi-carrier
mode and for directing said first receiver system to tune to a frequency
4 indicated in said sync channel message for the reception of a single band
system when said mobile station decides to operate in a single band mode and
6 for directing said first receiver subsystem to tune to a first frequency and for
directing said at least one additional receiver subsystem to tune to at least one
8 additional frequency when said mobile station decides to operate in a multi-
carrier mode.

10. The mobile station of Claim 8 wherein said control processor
2 directs said first receiver subsystem to tune to one of a predetermined set of
preferred frequencies.

11. The mobile station of Claim 8 wherein said mobile station is
2 operating within a personal communication system (PCS) set of frequencies
and wherein said predetermined set of preferred frequencies consist of the
4 frequency channel numbers 75, 150 and 225.

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